

WE CLAIM:

1. A noise compensation system comprising:
 - a first compander section adapted to amplify a far-end signal based on a near-end noise level estimate.
2. The system as in claim 1 wherein the first compander section is further adapted to reduce the amplification of low level far-end noise based on a far-end noise level estimate.
3. The system as in claim 1 wherein the first compander section is further adapted to vary a compression range onset point based on a total gain derived from the near-end noise level estimate and a far-end speech level.
4. The system as in claim 1 further comprising a first NGC gain unit adapted to vary the ratio of compensation gain increase per near-end noise increase.
5. The system as in claim 1 further comprising a first NGC gain unit adapted to vary the ratio of compensation gain increase per near-end noise increase based on the near-end noise level estimate.

6. The system as in claim 1 further comprising:
a second compander section adapted to amplify a near end signal based on a far-end noise level estimate.
7. The system as in claim 6 wherein the second compander section is further adapted to reduce the amplification of low-level near-end noise based on the near-end noise level estimate.
8. The system as in claim 6 wherein the second compander section is further adapted to vary a compression range onset point based on a total gain derived from the far-end noise level estimate.
9. The system as in claim 6 further comprising a second NGC gain unit adapted to vary the ratio of compensation gain increase per far-end noise increase.
10. The system as in claim 6 further comprising a second NGC gain unit adapted to vary the ratio of compensation gain increase per far-end noise increase based on the far-end noise level estimate.
11. A method of compensating for noise in a compander comprising:
amplifying a far-end signal based on a near-end noise level estimate.
12. The method as in claim 11 further comprising reducing the amplification of low level far-end noise based on a far-end noise level estimate.

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- 13. The method as in claim 11 further comprising varying a compression range onset point based on a total gain derived from the near-end noise level estimate and a far-end speech level.
 - 14. The method as in claim 11 further comprising varying the ratio of compensation gain increase per near-end noise increase.
 - 15. The method as in claim 11 further comprising varying the ratio of compensation gain increase per near-end noise increase based on the near-end noise level estimate.
 - 16. The method as in claim 11 further comprising amplifying a near end signal based on a far-end noise level estimate.
 - 17. The method as in claim 16 further comprising reducing the amplification of low-level near-end noise based on a near-end noise level estimate.
 - 18. The method as in claim 16 further comprising varying a compression range onset point based on a total gain derived from the far-end noise level estimate.
 - 19. The method as in claim 16 further comprising varying the ratio of compensation gain increase per far-end noise increase.

20. The method as in claim 11 further comprising varying the ratio of compensation gain increase per far-end noise increase based on the far-end noise level estimate.